5

10

## ABSTRACT

A single-pen, or multi-pen, printing device prints one or more diagnostic images to determine a print media line-feed advance offset to compensate for pen, or multi-pen, swath height and/or line-feed advance errors. A sensor detects pen swath optical densities from the diagnostic images, and an application component determines an error compensation factor from the pen swath optical densities. The sensor detects different pen swath optical densities from overlapping, aligned, and/or offset first and second print swath images that form a diagnostic image.